



# Pedestrian bridge over the Segre river II

Balaguer, Lleida, Spain / 2010

Structural type  
Owner  
Client  
Scope

arch bridge with composite deck and steel arch. main span of 62.8m  
Ayuntamiento de Balaguer  
Ayuntamiento de Balaguer  
detailed design and construction support



The Project has two different but perfectly integrated areas: firstly the accesses which constitute the link between the two pedestrian paths which run along the banks of the river, with the footbridge itself and the central span which corresponds to the flow of the River Segre, which is solved with an arch with lower deck construction.

## The Access Ways

The access ways are executed employing 0.40m thick reinforced concrete slabs which rest upon shielded concrete columns, depending on the direction of the river, and upon the existing channel wall. One of the support elements: the one which is located furthest down river has been taken advantage of and used as a support element for a stairway which leads to the local square which is situated on the right-hand-side of the River Segre. The intermediate support is used to support the slab on the approach stretch on the left bank and the central steel arch.

## Central Span

The main span has been solved employing a steel arch with a lower steel deck, employing a total of 140 tonnes of steel.

The deck is composed of a steel girder with an isosceles triangle cross-section, 0.53m deep and 6.00m wide. The central line of the box houses the hanger anchor system to connect them with the deck and they are set out every 6.0m.

In the abutment area the deck section varies slightly, becoming almost rectangular.

The arch follows a circular direction and has a quadrilateral cross section (appreciably triangular) offering a total span of 62.80m and a rise of 7.75m which supposes an abasement of  $f/L=1/8.10$ .

The arch is steel with a variable lineal cross-section being the total cross section area practically invariable. This geometry corresponds to the resistance needs of the bridge. The hangers are rust-proof rods set every 6.0m except the hanger closest to the spring which is set at 9.70m.

The Works are finalized with the paving, the railings and the lighting which all contribute to the integration of Project into the surrounding area.



C/ Barquillo 23, 2º | 28004 Madrid | España  
T. (+34) 917 014 460 | F. (+34) 915 327 864  
www.fhecor.com | fhecor@fhecor.es